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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,572	04/15/2004	Michael J. North	051583-0295	8672

27433 7590 04/18/2007  
FOLEY & LARDNER LLP  
321 NORTH CLARK STREET  
SUITE 2800  
CHICAGO, IL 60610-4764

EXAMINER
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SILVER, DAVID

ART UNIT	PAPER NUMBER
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2128

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/18/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/825,572	NORTH ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	David Silver	2128	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 August 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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### **DETAILED ACTION**

1. Claims 1-15 are pending in Instant Application.

#### ***Priority***

2. Priority is not claimed (**Effective Filing: 04/15/2004**).

#### ***Information Disclosure Statement***

3. An Information Disclosure Statement has not been submitted to the Office for consideration.

Applicants are respectfully reminded of their duty to disclose.

#### ***Claim Interpretation***

4. Limitations drawn to allowing, enabling or making optional a function's performance does not further limit a claim. As such, any prior art not explicitly prohibiting the performance of the function inherently anticipates the limitation.

#### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claim 1-15 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

- 5.1 In this instance, absent an explicit and deliberate definition in the specification that the product includes an appropriate medium or hardware elements, the claims are directed to software, *per se*. Note exemplary claim 13 which recites only software elements. Additionally, software, *per se*, is not considered concrete (MPEP 2106). The 'means for' elements are disclosed to possibly include software elements, *per se*. Therefore, they are not drawn to structural hardware elements; thus, they are drawn to non-statutory subject matter. (**Specification [0007] [0006] [0046]**)

#### **MPEP 2106 recites, in part:**

"...USPTO personnel shall review the claim to determine it produces a useful, tangible, and concrete result. In making this determination, the focus is not on whether the steps taken to achieve a particular result are useful, tangible, and concrete, but rather on whether the final result achieved by the claimed invention is "useful, tangible, and concrete." (emphasis added)

- 5.2 The method claims do not produce a useful, tangible, and concrete final result. The steps of the

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method claims do not produce a useful, tangible, and concrete result. They merely recite a software algorithm, per se, which, for example, does not display, store, or otherwise provide a useful tangible output. Note exemplary claim 1 which only recites software steps and does not produce a useful tangible and concrete final result. See MPEP 2106 [R-5] (partially recited above).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-15 are rejected under 35 U.S.C. 102(b) as being anticipated by TOPCCIP's "TAB B, Preliminary Research and Development Roadmap for Protecting and Assuring the Energy Infrastructure" ("TAB B").

TAB B discloses: 1. A method for simulating interdependent infrastructures, comprising the steps of:

selecting a subset of an interdependent infrastructure system (**page B-1 middle, B-18 middle, B-57 middle**);

equivalencing the subset (**page B-48 bottom**);

creating a plurality of agents to interact with the subset (**TAB B: B-23 top**); and

simulating multi-scale agent interactions (**B-21 middle, B-25 bottom, B-41 middle, B-47 bottom half**).

TAB B discloses: 2. The method of claim 1, wherein the subset is being selected to represent a geographic region (**B-19 middle, B-32 middle, B-35 top half, B-49 top half, B-50 top half**).

TAB B discloses: 3. The method of claim 1, further comprising the steps of:

selecting components for two way analysis, and wherein the simulation occurs across concurrent time (**B-25, B-5 top, B-9 top, B-20 bottom; Table B.4 item 6.2**).

TAB B discloses: 4. The method of claim 1, further comprising the steps of:

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selecting a plurality of infrastructures to simulate; and connecting the infrastructures, including the steps of screening candidate interconnections (**B-49 bottom half: screening tools**); and assigning candidates a likelihood of connection (**B-11 top**).

TAB B discloses: 5. The method of claim 1, wherein the equivalencing step includes the steps of:

identifying connections extending outside of the subset (**B-3 middle; B-54 bottom half**); and calculating flow limit for each connection extending outside the subset (**B-71 middle; B-72 middle**).

TAB B discloses: 6. The method of claim 1, wherein the creating agents step includes the steps of:

creating agents from templates and data for a infrastructure; and creating agents at equivalenced connections (**B-48 bottom; Table B.6 item 1.4; B-50 top**).

TAB B discloses: 7. The method of claim 1, wherein the simulating step includes the steps of:

advancing agent conditions through time; re-equivalencing the infrastructure (**B-5 middle**); and continuing the simulation until a steady state is achieved (**B-47 middle**).

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As per claims 8-15, note the rejection of claims 1, 4-7, 1, 5, 7 above, respectively. The Instant Claims recite substantially same limitations as the above-rejected claims and therefore rejected under same prior-art teachings.

***Conclusion***

7. All claims are rejected.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Each of the following references, either alone, or in combination fully anticipates or makes obvious the invention; however, a 35 USC §102/§103 rejection is not presented because it would have been cumulative to the rejection above:

Bush's "The SOFIA Project for Interdependent Infrastructure Modeling, Simulation, and Analysis" ("Bush");

NRC's "Making the Nation Safer The Role of Science and Technology in Countering Terrorism" ("NRC");

NPC's "Securing Oil and Natural Gas Infrastructures in the New Economy" ("NPC");

NAERC's "An Approach to Action for the Electricity Sector" ("NAERC"); and

TOPCCIP's "Preliminary Research and Development Roadmap for Protecting and Assuring Critical National Infrastructures" ("TOPCCIP").

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Silver whose telephone number is (571) 272-8634. The examiner can normally be reached on Monday thru Friday, 10am to 6:30pm.

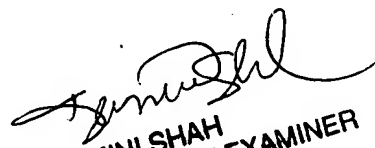
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on 571-272-2279. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from

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either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David Silver  
Patent Examiner  
Art Unit 2128



KAMINI SHAH  
SUPERVISORY PATENT EXAMINER